# SATA 250/160/120GB

# 1.8-Inch Hard Disk Drives



Market-Leading Capacity

High-Performance

Durability



MK2529GSG MK1629GSG MK1229GSG

Toshiba, the pioneer in small form factor hard disk drives (HDDs), continues to deliver innovative storage solutions with the addition of three new high-capacity, high-performance Serial ATA 1.8-inch HDDs. The MK\*\*29GSG family features the industry's first quarter-terabyte 1.8-inch HDD along with 120GB¹ and 160GB¹ capacity drives.

Combined with the new micro-SATA connector, Serial-ATA 3.0Gb/s interface and 5400 RPM spin speed, the MK\*\*29GSG family offers small and light-weight solutions, at increased data transfer rates for enhanced performance, in sub-notebook PCs.

- 1.8-inch Footprint With Up To A Quarter-Terabyte (250 GB¹) Of Capacity
- 5400 RPM Spin Speed
- Host Transfer Rate Up To 3.0 Gb/s
- Serial ATA 2.6 / ATA-8 Interface
- Micro-SATA Connector
- 8MB Cache Buffer

# Hard

Drive

# SATA 250/160/120GB

### 1.8-Inch Hard Disk Drives





Interface	Specifications		MK2529GSG (HDD1F07)	MK1629GSG (HDD1F08)	MK1229GSG (HDD1F09)
Number of Platters   2		Interface			
Number of Data Heads   RoHS Compatible*   Y	Series Overview	Capacity	250GB <sup>2</sup>	160GB <sup>1</sup>	120GB <sup>1</sup>
RoHS Compatible <sup>2</sup>	Conce everyion	Number of Platters	2	2	1
Max Transfer Rate to Host   Media Transfer Rate (max)   S99.5 Mbits/sec   S400rpm   S400rp		Number of Data Heads	4	4	2
Media Transfer Rate (max)   599.5 Mbits/sec   5400rpm		RoHS Compatible <sup>2</sup>	Υ	Υ	Υ
Media Transfer Rate (max)   599.5 Mbits/sec   5400rpm	Performance				
Performance		-			
Performance   Buffer   BMB   8MB   8 NBE   8 NO045   NO045   NO0		` ′ ′			
Buffer   SMB   S			<u> </u>	<u> </u>	<u> </u>
Track-to-track Seek Time   Average Seek Time   15ms   15					
Average Seek Time   15ms   15ms   15ms   600,000   600					
Load/Unload Cycles   600,000   600,000   600,000   600,000					
Voltage		-			
Energy Consumption Efficiency   Spin-up   2.5watts		Load/Officad Cycles	000,000	600,000	600,000
Power Reading   1.2 watts		Voltage	3.3V ± 5%	3.3V ± 5%	3.3V ± 5%
Seeking		Energy Consumption Efficiency <sup>4</sup>	0.0016W/GB	0.0025W/GB	0.0030W/GB
Reading   1.2watts		Spin-up	2.5watts	2.5watts	2.5watts
Non-Operating Temperature   Activating Temperature   Accivating Tempe		Seeking	1.2watts	1.2watts	1.2watts
Requirements		Reading	1.2watts	1.2watts	1.2watts
Active Idle		Writing	1.2watts	1.2watts	1.2watts
Stand-by   0.18watts   0.18watts   0.18watts   0.18watts   0.13watts		Active Idle	0.50watts	0.50watts	0.50watts
Sleep   0.13watts   0.13watts   0.13watts   0.13watts		Low Power Idle	0.40watts	0.40watts	0.40watts
Height   Dimensions/Weight   Height   Depth		Stand-by	0.18watts	0.18watts	0.18watts
Dimensions/Weight  Width Depth		Sleep	0.13watts	0.13watts	0.13watts
Dimensions/Weight  Width Depth	Dimensions/Weight	Height	0.31" (8mm)	0.31" (8mm)	0.31" (8mm)
Depth Weight 3.09" (78.5mm) 3.09" (7		_	, ,		
Weight   2.19 0z (62g)   2.19 oz (62g)   2.12 oz (60g)					
Operating Temperature 41 - 131°F (5 to 55°) 42 - 148°F (-20 to 65°) 42			, ,	• •	,
Non-Operating Temperature   -4 - 148°F (-20 to 65°)   -4 - 148°F (-2		vveignt	2.19 02 (029)	2.19 02 (029)	2.12 02 (00g)
Operating Humidity   8 - 90% R.H.   90	Environmental	Operating Temperature	41 - 131°F (5 to 55°)	41 - 131°F (5 to 55°)	41 - 131°F (5 to 55°)
Non-Operating Humidity   8 - 90% R.H.   9 - 90% R		Non-Operating Temperature	-4 - 148°F (-20 to 65°)	-4 - 148°F (-20 to 65°)	-4 - 148°F (-20 to 65°)
Departing Vibration   2.0G (15-500 Hz)   2.0G (15-500 Hz)   2.0G (15-500 Hz)   2.0G (15-500 Hz)		Operating Humidity	8 - 90% R.H.	8 - 90% R.H.	8 - 90% R.H.
Non-Operating Vibration   2.0G (15-500 Hz)   2.0G (15-500 Hz)   2.0G (15-500 Hz)   2.0G (15-500 Hz)		Non-Operating Humidity	8 - 90% R.H.	8 - 90% R.H.	8 - 90% R.H.
Non-Operating Vibration         5.0G (15-500 Hz)         5.0G (15-500 Hz)         5.0G (15-500 Hz)           Operating Shock         500G/2.0ms         500G/2.0ms         500G/2.0ms           Non-Operating Shock         1,500G/1.0ms         1,500G/1.0ms         1,500G/1.0ms           Acoustics         1.8Bels         1.8Bels         1.6Bels		Operating Vibration	2.0G (15-500 Hz)	2.0G (15-500 Hz)	2.0G (15-500 Hz)
Operating Shock         500G/2.0ms         500G/2.0ms         500G/2.0ms           Non-Operating Shock         1,500G/1.0ms         1,500G/1.0ms         1,500G/1.0ms           Acoustics         Idle Mode (Average)         1.8Bels         1.8Bels         1.6Bels		· · · · -		•	
Non-Operating Shock         1,500G/1.0ms         1,500G/1.0ms         1,500G/1.0ms           Acoustics         Idle Mode (Average)         1.8Bels         1.8Bels			· ,	` ,	,
Acoustics Idle Mode (Average) 1.8Bels 1.8Bels 1.6Bels					
Acoustics			·	·	·
Seek Mode (Average) 2.3Bels 2.3Bels 2.2Bels	Acoustics	Idle Mode (Average)	1.8Bels	1.8Bels	1.6Bels
		Seek Mode (Average)	2.3Bels	2.3Bels	2.2Bels

<sup>1.</sup> One Gigabyte (1 GB) means 10° = 1,000,000,000 bytes using powers of 10. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = 2°° = 1,073,741,824 bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the computer includes one or more pre-installed operating systems, pre-installed software applications, or media content. Actual formatted capacity may vary. 2 RoHS Compatible: This product is compatible with European Union Directive 2002/95/EC. Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), which restricts use of lead, cadmium, mercury, hexavalent chromium, PBB, and PBDE.

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mercury, hexavalent chromium, PBB, and PBDE.

3. Buffer space available to the user.

Energy consumption efficiency is calculated based on power consumption divided by formatted capacity, as defined by Japanese law.